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CURRICULUM BULLETIN
Number Five

"The Evolution of Common Things"

UNIT 3—TRANSPORTATION BY LAND

by
Kathryn R. Clarke

Teacher-Rapid Learner Class
P. S. 500 (Speyer School)

1938
PUBLICATION NO. 6

This volume is part of a series of units on the theme "The Evolution of Common Things," which was prepared for the Speyer School, New York City's experimental school for exceptional learners led by Leta Hollingworth in the 1930s. Our re-publication of the units is directly tied to Dr. Willard L. White's *America's First Gifted Program*, published by Royal Fireworks in 2014. Dr. White is the source of the original copy of this text.

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UNIT 3: TRANSPORTATION BY LAND

KATHRYN R. CLARKE
Teacher-Rapid Learner Class

JAMES MARSHALL
President, Board of Education

HAROLD G. CAMPBELL
Superintendent of Schools

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Elementary School Division

1938

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THE EVOLUTION OF COMMON THINGS

A Series of Units Developed
for Rapid Learners
At Public School 500, Manhattan,
Speyer School

UNIT 3: TRANSPORTATION BY LAND

by Kathryn R. Clarke

Foreword

The general plan of the *Series on The Evolution of Common Things*, of which this is Unit 3, was set forth at length in issuing *Unit 1: Aviation.*[1] The reader is referred to the *Foreword* there formulated by the Superintendents and the Educational Advisers. It is necessary to say only a few words here.

With each unit of our series must go the special reminder that this material has been developed with and for *very rapid learners only.* It will, therefore, be unsuitable for the generality of classrooms, in both public and private elementary schools. Children must be *tested* for determination of mental ability, and for literacy, before being launched upon a project like this one. Such fitting of the school to the child is the beginning of a science of education. It is the ideal of democracy that every child should be educated in accordance with his capacity to receive and serve. But this ideal remains a mere romanticism, without mental measurement. We must "take the measure" of a child before we can know what his capacity is. The value of this series of units arises from the fact that the work has been experimentally based on *mental measurement.*

Furthermore, it is to be borne firmly in mind that this handbook is not a syllabus to be followed word by word. It is a suggestive guide, rather than a prescribed "course". It is an outcome of the learning of one particular group of twenty-five highly intelligent elementary school children; not a solidified body of facts and ideas to be offered to other similar groups, without variation. Any other group of young children, equally endowed by nature, might well work out the area of *Transportation by Land* rather differently, placing emphasis on different aspects, and accenting the field in various ways. For instance, our pupils did not select beasts of burden as a main topic of study. They did not give much attention to bridges, as a problem of land transport. They did not consider the transportation of infants, an interesting phase of travel by land, historically viewed. Their emphasis fell heavily

[1] Schuck, Myrna Ingram, The Evolution of Common Things, *Unit 1: Aviation.* Curriculum Bulletin No. 1, Board of Education, 500 Park Avenue, New York City, 1937.

upon *railroads,* whereas the emphasis of another such group might fall upon automobiles, or upon beasts of burden. If all possible aspects of transportation by land were to be exhaustively studied, it is obvious that too much of the total time available would be spent on this one area, in the evolution of common things; so that selective emphasis is bound to fall somewhere, since we did not wish to give more than one term to this particular area.

With highly intelligent pupils, the ideal is to allow for variation and individuality of interest. Also, the form of handbooks, in a field being experimentally explored, should vary with the teacher in charge. It will be observed that this unit is not uniform with the two units preceding, in format. Since this handbook merely is a guide, perfection is not claimed, in the formulation of the subject. Stimulating endeavor, by pupils of the elementary school, striving to understand their world, is claimed. The trend and scope of their intellectual curiosity and interest are made clear, for the guidance of those who are charged with the education of such children everywhere, whether as individuals or in groups.

Lest it be feared that the pupils engaging in such studies as those being reported in the *Evolution of Common Things* may fall below standard in the subjects of the prescribed curriculum, a graph is herewith presented (Figure 1), to show status in such subjects as of the years 1936 and 1937. The unit on *Transportation by Land* was carried out in the first term of the school year 1936–37. It will be seen how far in advance of grade norms our pupils stand, as compared with unselected pupils the country over, in mastery of the prescribed school subjects.

The photographs illustrating this unit were taken by Mr. Edward Anhalt, except for Figure 4, which was taken by Mr. Robin Carson, and is published by courtesy of *The Literary Digest.*

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TRANSPORTATION BY LAND

A Unit Developed with a Class of Rapid Learners

This Unit on *Transportation by Land* is presented in form sufficiently complete to give real expression to the scope and thoroughness of the intellectual work which is proper to very rapid learners, in the elementary school. The segregation of young children who test above 130 IQ (S–B) for special instruction in the elementary school is so new in educational practice that it cannot be realized without actual experience of the matter what their interests are, what their degree of literacy is, and how their mental powers work upon the phenomena of the world in which they have so recently arrived. Many persons are incredulous when told of the scope and precision of thought which are natural to young children of the mental calibers here exemplified.

Accordingly, we have presented our term's work in detail, as being an enrichment of the standard curriculum experimentally demonstrated with such pupils, at Public School 500, Manhattan, which can be followed in the instruction of other children of the same mentality.

The unit here offered as a result of our experience covered one term's work, requiring about five hours of work each week, on the average.

Mental Caliber of the Pupils

The following table indicates the chronological age, sex, intelligence quotient, and reading ability of each child who participated in this study of transportation by land, as of December, 1936, when the unit was concluded.

				Reading Ability (New Standford Achievement) Total Reading Average as of Dec. 1963		
Child	C.A.	I.Q. (S-B)	Sex	Points	Reading Age	School Grade
1	9-11	146	M	110	17-0	U.M.*
2	10-3	141	F	107	16-6	U.M.
3	9-6	150	M	104	16-2	U.M.
4	10-7	146	M	103	16-0	U.M.
5	10-3	145	M	100	15-8	9.7
6	10-1	132	F	100	15-8	9.7
7	9-5	156	F	97	15-2	9.2
8	8-0	163	M	94	14-8	8.7
9	10-0	138	M	94	14-8	8.7
10	9-3	130	F	92	14.4	8.4
11	9-7	138	F	91	14.1	8.2
12	9-5	149	F	89	13-9	7.9
13	9-4	140	M	85	13-1	7.4
14	8-11	132	F	84	12-11	7.2
15	10-5	138	M	80	12-6	6.7
16	8-1	131	F	80	12-6	6.7
17	9-2	175	M	80	12-6	6.7
18	8-3	138	F	79	12-4	6.6
19	8-4	140	M	78	12-3	6.4
20	7-10	170	M	77	12-2	6.3
21	8-11	144	M	76	12-0	6.2
22	8-9	143	M	74	11-10	6.0
23	8-7	147	M	73	11-9	5.9
24	8-5	171	F	69	11-5	5.6
25	8-1	140	F	68	11-4	5.5

The study of Transportation by Land as here presented is based on the measurements of mentality and of literacy recorded above, and it must be borne firmly in mind that attempts to carry on the projects here presented with unmeasured pupils, gathered at random, will be unsuccessful. The same subject may, of course, be studied by children of any caliber, but not in the way in which these children studied it, and

* U.M. means "undistributed maximum", the pupil's proficiency being above the highest point recorded by this test.

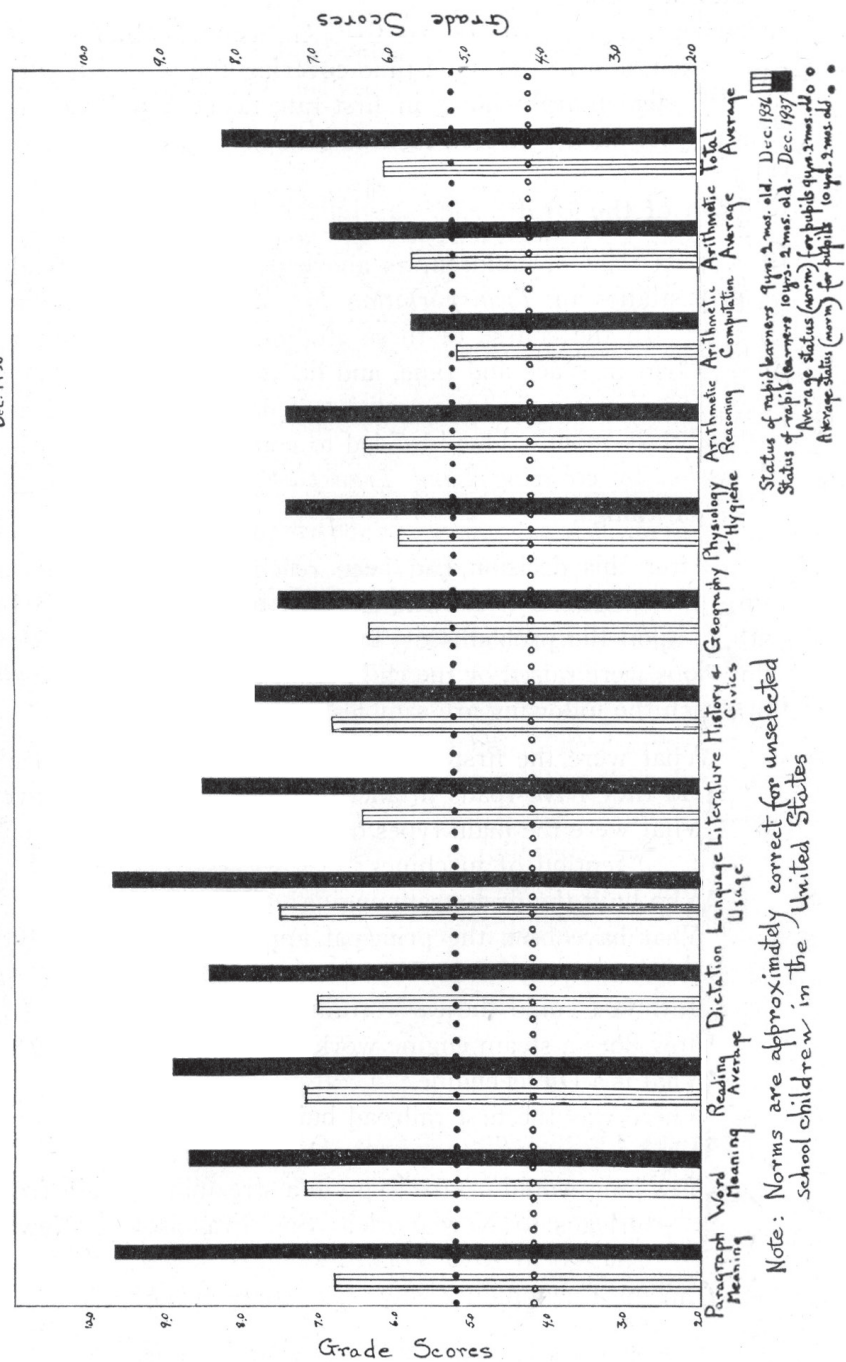

FIGURE 1. GRAPH SHOWING THAT RAPID LEARNERS FAR EXCEED THE NORMS IN SCHOOL SUBJECTS, WHILE PURSUING THE CURRICULUM IN "THE EVOLUTION OF COMMON THINGS".

not with the same results. Only a group of pupils of the same caliber as this one will be able to complete such a piece of work in one term, using the bibliography here presented, and at the same time covering the standard curriculum of the elementary schools in first-rate fashion, together with the other enrichments offered for this group.[2]

Origin of the Unit

This class of children, as above described, had already completed studies of *Transportation by Air* and *Transportation by Water*. In the course of these studies, they had begun to place themselves in space and time, and had made great progress in the business of connecting the realities of daily life with the activities of the classroom. They decided to complete the study of *Transportation* by covering *Land Transport*, before going on to other common things.

After this decision had been reached, the next step was to raise the questions which the children had in mind, as a basis of attack upon the problems of Transportation by Land. Scores of questions were raised by the children at this preliminary discussion, of which the following are samples selected at random:

What were the first means of transportation that men used?

Did they have roads in ancient times, such as we have now?

What were the main types of carriages and wagons before the invention of machines?

Who built the first steam engine? Where? When?

What have been the principal improvements on early trains, to the present day?

How fast could the early trains go?

How does a steam engine work?

What is a Diesel engine?

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[2] Hollingworth, Leta S., An Enrichment Curriculum for Rapid Learners at Public School 500: Speyer School. Teachers College Record, 39, 296–306, January, 1938.